

CLAIMS

What is claimed is:

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1. An hydraulic power system within a building comprising:
 - an hydraulic support chamber;
 - 5 a conduit that supplies fluid to the hydraulic support chamber;
 - a turbine which generates electricity during a fluid discharge from the support chamber;
 - a valve that controls hydraulic fluid flow to the turbine;
 - a fluid reservoir to collect hydraulic fluid from a turbine discharge;
 - 10 a volume of fluid deliverable to the hydraulic support chamber; and
 - an electrical distribution controller that distributes generated power.
2. The system of Claim 1 further comprising a plurality of support chambers.
3. The system of Claim 1 further comprising:
 - 15 a pressure plate with a seal to prevent hydraulic fluid leakage between the plate and a wall of the chamber;
 - a bearing pad which is centrally positioned on the pressure plate;
 - high pressure lubricant supply to deliver lubricant to the bearing pad to allow relative movement between the bearing pad and the pressure plate;
 - a vertical connecting link to couple the upward hydraulic force to a lower
 - 20 building support steel structure; and
 - a vertical guide channel having a roller assembly to allow elevation changes of the building while maintaining vertical orientation of the building.
4. The system of Claim 1 further comprising a pump to deliver fluid to the support chamber to elevate a building structure.

5. The system of Claim 1 further comprising a limited displacement lateral restraint system.
6. The system of Claim 1 wherein the turbine further comprises a pump.
7. The system of Claim 2 further comprising a chamber valve that controls fluid flow between each support chamber and the conduit.
8. A building foundation and support structure which accommodates seismic earth movements through an hydraulic cushion of building support chambers while providing controllable relative horizontal movement between the building structure and its foundation comprising:
- vertical connecting links between the lower building steel structure and its associated bearing pad;
- bearing pads over each pressure plate at each hydraulic support chamber;
- a lubricant supply and distribution system to provide lubricant film between the bearing pads and a face of the pressure plates;
- pressure plates which move vertically within each hydraulic support chamber, but are fixed in their horizontal position mounting of the chambers to the foundation; and
- seals around each pressure plate to prevent hydraulic fluid leakage between the chamber walls and the pressure plates.

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9. The structure of Claim 8 further comprising:

an external limited displacement lateral restraint system to allow a controlled, relative horizontal movement between the building structure and a fixed foundation and allow vertical and level movement of the building structure relative to the foundation comprising:

vertical guide channels to maintain the vertical orientation of the building during vertical movements;

an adjustable guide roller assembly within the guide channels and with spring-loading or other shock-absorbing to maintain contact with the outer vertical corner surfaces of the building steel structure while allowing horizontal displacement; and

suitable bracing system to maintain orientation of the vertical guide channels relative to the building foundation during wind loads.

10. The structure of Claim 8 further comprising a system controller and a battery storage system.

11. The structure of Claim 8 further comprising a valve to periodically control delivery of lubricant.

12. A method of generating power comprising:

delivering fluid to an hydraulic support chamber to elevate a structure;

controlling delivery of fluid from the support chamber to a turbine which generates electricity; and

an electrical distribution controller that distributes generated power from the turbine.

13. The method of Claim 12 further comprising providing a plurality of support chambers.

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14. The method of Claim 12 further comprising:
- providing a pressure plate with a seal to prevent hydraulic fluid leakage between the plate and a wall of the chamber;
 - providing a bearing pad which is centrally positioned on the pressure plate;
 - delivering lubricant to the bearing pad to allow relative movement between the bearing pad and the pressure plate;
 - coupling an upward hydraulic force to a lower building support steel structure with a vertical connecting link; and
 - providing a vertical guide channel having a roller assembly to allow elevation changes of the building while maintaining vertical orientation of the building.
15. The method of Claim 12 further comprising pumping fluid to the support chamber with a pump.
16. The method of Claim 12 further comprising providing a limited displacement lateral restraint system.
17. The method of Claim 12 further comprising pumping fluid to the support chamber with the turbine.
18. The method of Claim 13 further comprising providing a chamber valve that controls fluid flow between each support chamber and fluid delivery to a conduit coupled to a fluid reservoir.

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19. The method of Claims 16 further comprising:
- providing an external limited displacement lateral restraint system to allow a controlled, relative horizontal movement between the building structure and a fixed foundation and allow vertical and level movement of the building structure relative to the foundation, the system having:
- vertical guide channels to maintain the vertical orientation of the building during vertical movements;
- an adjustable guide roller assembly within the guide channels and with spring-loading or other shock-absorbing to maintain contact with the outer vertical corner surfaces of the building steel structure while allowing horizontal displacement; and
- suitable bracing system to maintain orientation of the vertical guide channels relative to the building foundation during wind loads.
20. The method of Claims 12 further comprising providing a system controller and a battery storage system.